



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/031,787 | 05/20/2002 | Claudia Wiegand | MERCK 2341 | 5718 |
| 23599 | 7590 | 01/22/2007 | EXAMINER | |
| MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201 | | | OLSEN, ALLAN W | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1763 | | |
| | | MAIL DATE | | DELIVERY MODE |
| | | 01/22/2007 | | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

| | |
|------------------------|---------------------|
| Application No. | Applicant(s) |
| 10/031,787 | WIEGAND ET AL. |
| Examiner | Art Unit |
| Allan Olsen | 1763 |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 03 January 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- The period for reply expires _____ months from the mailing date of the final rejection.
- The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on 02 October 2006. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

- They raise new issues that would require further consideration and/or search (see NOTE below);
- They raise the issue of new matter (see NOTE below);
- They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. Applicant's reply has overcome the following rejection(s): The 112 1st rejection of claims 18 and 19 and the objection to the specification have been overcome.

6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. For purposes of appeal, the specification amendment: a) will not be entered, or b) will be entered.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 4,5,7,14 and 17-19.

Claim(s) withdrawn from consideration: 8-13 and 20-26.

AFFIDAVIT OR OTHER EVIDENCE

8. The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
see attachment.

12. Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. Other: _____.

Allan Olsen
Primary Examiner
Art Unit: 1763

ADVISORY ACTION

Response to Arguments Presented with After Final Request for Reconsideration

Restriction/Election

Applicant traverses the imposed election by original presentation by arguing that no burden would be imposed upon the Office by examining both groups because the two groups would be classified in the same area of classification and no additional searching would be required.

The examiner notes that the classification of the composition claims would be 252/79.4 whereas the classification of the method claims would be 216/99. Also, searching the method claims requires consideration of the material being etched whereas a search for the compositions claims requires no such consideration.

The Rejection Under 35 U.S.C. §112

The new matter rejection of claims 18 and 19 is withdrawn, as applicant's arguments are persuasive. Also, basis for the 15% of claim 19 has been found in diagrams 5 and 6 of the originally filed drawings (page 4 of 4).

The Rejection Under 35 U.S.C. §103

Initially, it is noted that Applicant provides a table indicating the concentration of HF, H₂O, and the organic solvent for examples 1-5 of Deckert. The values arrived at by applicant are not too different from those calculated by the examiner. For example, with respect to example 4, the following table highlights the slight difference in values..

| Deckert's Example 4 | Applicant's table | Examiner's calculation |
|--------------------------------|-------------------|---------------------------|
| HF concentration | 4.5 % | 4.7% (rounded from 4.65%) |
| H ₂ O concentration | 4.7% | 4.8% (rounded from 4.84%) |
| Glycerol concentration | 90.7% | 90.5% |

Art Unit: 1763

The examiner's values were arrived at by the following series of calculation.

100 mL of 49% (w/w) HF having a density of 1.19 g/mL = 119 g of HF solution

49% of 119 g = 58.3 g HF

51% of 119 g = 60.7 g H₂O

~900 mL of glycerol having a density of 1.26 g/mL = 1134 g glycerol

Total mass of HF/H₂O/glycerol = 1253 g

% HF = 58.3/1253 = 4.7%

% H₂O = 60.7/1253 = 4.8%

% Glycerol = 1134/1253 = 90.5%

More substantive matters will now be addressed. Applicant's argument, beginning with the last paragraph on page 7, is premised on the mistaken notion that Table 1 and Table 2 of Deckert reflect the results obtained from using solution with different HF concentrations. However, table 1 of Deckert pertains to the etchant of Deckert's example 1, which Deckert indicates, "is about 1 molar in HF" (column 4, line 6). Table 2 is data from a comparative sample wherein the etchant was a 1 molar aqueous hydrogen fluoride solution (column 4, lines 21-23). Therefore, contrary to the premise on which applicant's argument is based; the data in Table 1 and Table 2 of Deckert were obtained by using etchants having an equal concentration of HF.

Beginning with the 4th paragraph on page 8, applicant addresses the aspect of the rejection that is based upon the following:

"It would have been obvious for one skilled in the art to make the etching solution of Deckert with a 1:1 mixture of glycerol and ethylene glycol because '[i]t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose'.¹"

¹ In re Kerkhoven 205 USPQ 1069 (CCPA 1980). Cites In re Susi 169 USPQ 423, 426 (CCPA 1971); In re Crockett 126 USPQ 186, 188 (CCPA 1960). See also Ex parte Quadranti 25 USPQ 2d 1071 (BPAI 1992).

Art Unit: 1763

Applicant argues that Deckert's etchants are not used for the same purpose as the etchant of the claimed invention. This argument is based upon the notion that the above stated "very same purpose" is intended to mean that an applied reference (Deckert, in this case) is required to have the same purpose as applicant's claimed invention. However, in a manner that absolutely evades the use of impermissible hindsight, reliance upon the above principle requires absolutely no consideration of applicant's intended purpose. The recited "very same purpose" is a reference to the purpose in the prior art. If the prior art teaches two compositions that are useful for the same purpose, it is considered *prima facie* obvious to form a third composition by combining those two compositions in order to carry out that same purpose. In the situation at hand, Deckert teaches two oxide/nitride etchant compositions - a first composition comprising HF and glycerol and a second composition comprising HF and ethylene glycol. Deckert teaches that both of these compositions may be used as oxide/nitride etchants, as such, Deckert teaches two compositions that are useful for the same purpose. Therefore, it is *prima facie* obvious to combine these two compositions of Deckert to form a third oxide/nitride etchant composition (i.e., forming a third composition to be used for the very same purpose). As noted, such a rejection is not based upon impermissible hindsight.

Previously, the examiner noted that "Applicants' claims are directed to a composition, not a method ... The intended use of applicant's composition is not relevant to the patentability of the composition." Applicant's respond by stating, "the intended use is highly relevant towards the motivation of a skilled worker to make changes to a composition. Thus, one skilled in the art would not look to Deckert for guidance in formulating an etching solution for the selective etching of such doped layers, since Deckert is related to non-selective etching. Deckert does not motivate any changes in its etching solutions directed to such a selective etching application, which would be counterproductive for Deckert."

This argument is based upon the notion that the proposed changes to the prior art composition is motivated by the desire to achieve the same results as applicant.

Art Unit: 1763

Again, this argument assumes the use of impermissible hindsight. However, the rejection is not based upon a modification of the prior art that is motivated by a desire to formulating an etching solution that will selective etch doped layers. As previously asserted, applicant's intended use of the claimed composition is not relevant to determining the patentability of the composition.

With respect to Sakaguchi, applicant argues that in Sakaguchi there is no discussion of solvent mixtures. The examiner notes that Sakaguchi was not relied upon for teaching the use of a solvent mixture. This aspect of the claimed invention is *prima facie* obvious in view of Deckert alone.

Applicant also proffers the notion that the skilled artisan would understand from Sakaguchi that surface tension and viscosity are critical parameters to consider when selecting the components of a solvent system. Applicant then suggests that, based upon the viscosities of the claimed ethylene glycol and glycerin, the skilled artisan would not choose to include these in a solvent system. In response, the examiner notes that Sakaguchi contains no reference whatsoever to either surface tension or viscosity. Secondly, applicant suggests that viscosity and surface tension are important parameters to consider. However, applicant only relies on the viscosity data to support their conclusion that the skilled artisan would shy away from including glycerin and ethylene glycol. It is noted that the surface tension data that is provided by applicant argues against applicant's conclusion. Additionally, it is noted that this argument, with 70 pages of supporting data, is presented for the first time with the application under final rejection.

Allan Olsen
Primary Examiner
Art Unit 1763

